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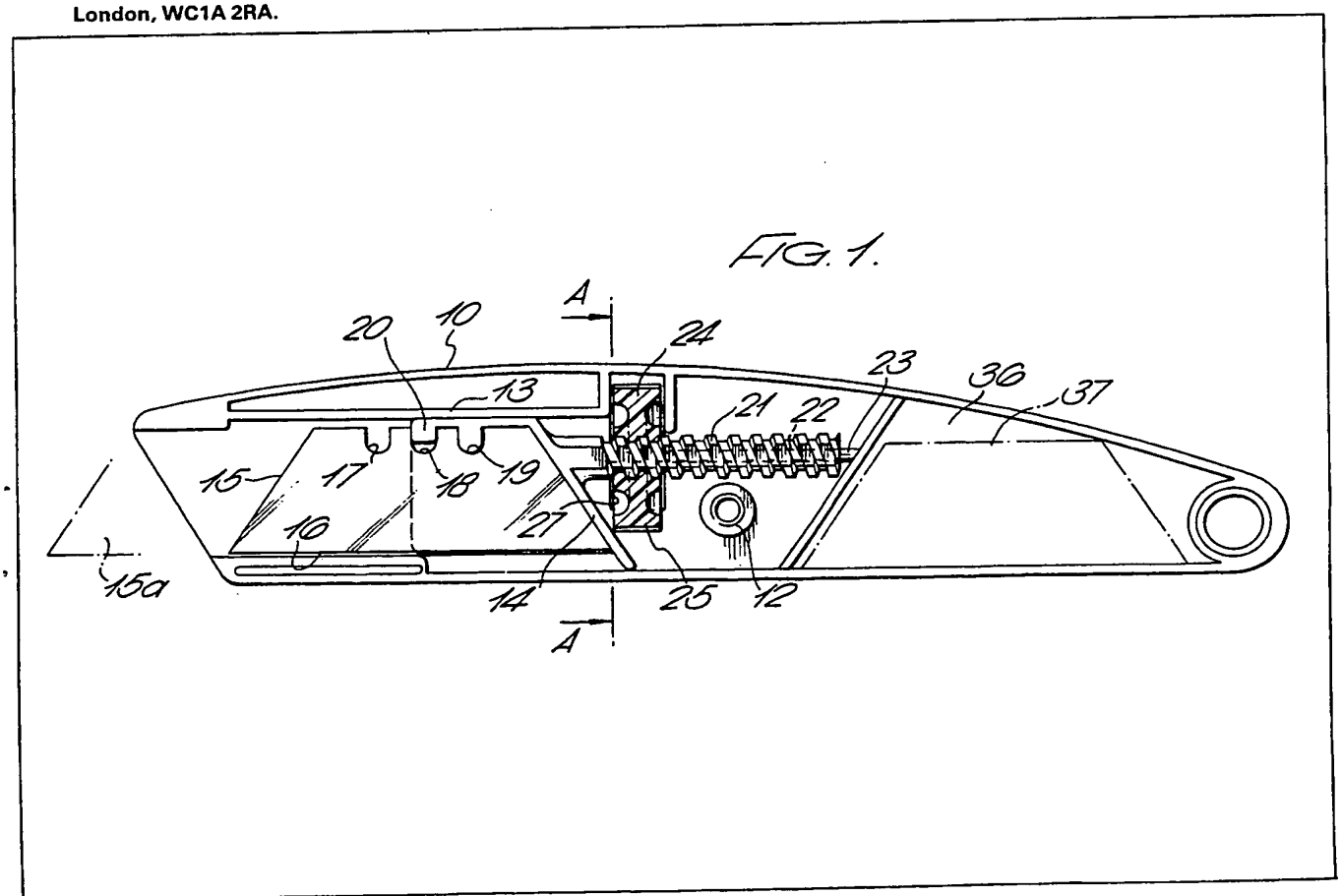
(54) **Retractable blade craft knife**

(57) A craft knife comprises a casing having two parts 10 and 11 providing a guide track 13 for a blade supporting carriage 14, the carriage 14 being arranged to receive a blade 15 formed with a cutting edge 16. Brazed to carriage 14 is a worm 21 which is formed with an internal bore 22 engaged over a stub shaft 23 fixed to the casing 10. Mounted on the worm 21 is a threaded plastic nut 24 which may be operated by the user of the knife so as to adjust the position of the knife blade or to retract it into the casing.

FIG. 1.



The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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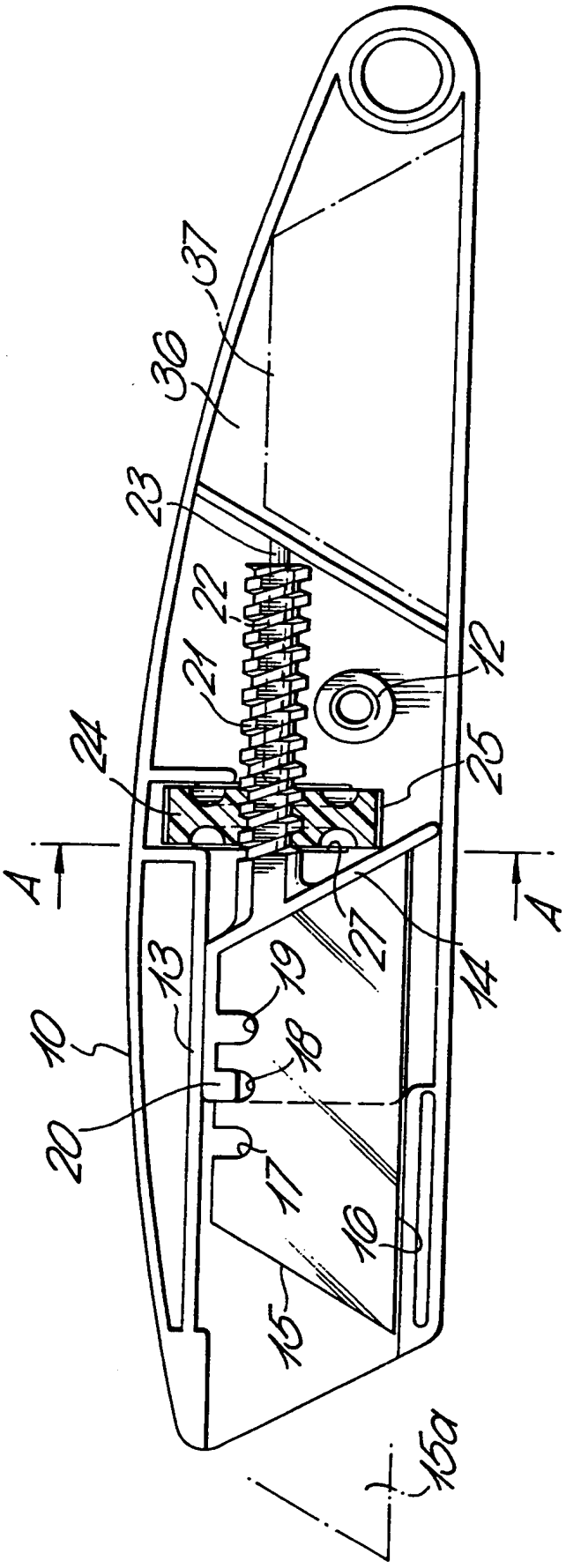
FIG. 1.



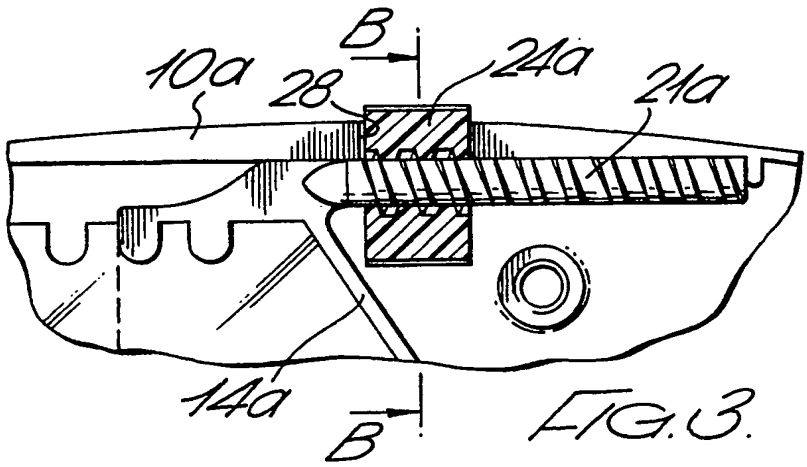


FIG. 3.

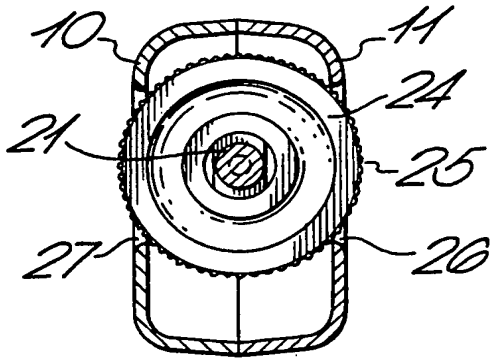


FIG. 2.

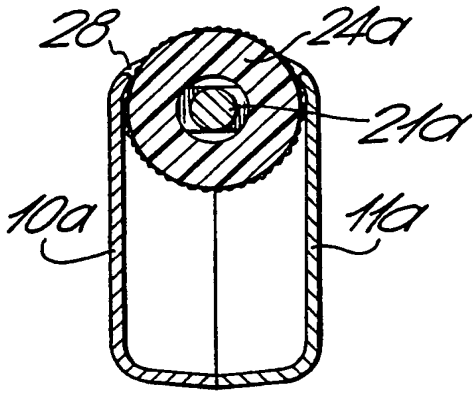


FIG. 4.

SPECIFICATION

Retractable blade craft knife

This invention relates to the type of knife which has become known as a Craft Knife.

Craft Knives which are extensively used for modelling and accurate cutting of wood, paper etc. usually consists of a substantial metal handle in the form of a two part casting which supports at one end, a very sharp blade somewhat like a razor blade but usually trapesium shaped.

Since these knives are extremely sharp and have handles made of relatively heavy material they can be extremely dangerous if they happen to fall or knock into a users hand or foot.

It is an object of this invention to provide a craft Knife which has a retractable blade, the blade being retractable by the user so that it can be retracted into the handle when the knife is not in use and also so that the position of the blade and the amount of blade exposed can be varied for different uses of the knife.

In accordance with the present invention a Craft knife comprises an easily removal blade extending through a slot in one end of the knife, the knife comprising a two part casing which acts as the handle of the knife and also may provide storage for spare blades, the knife being characterised by this that the blade is retractable into the casing by mechanism built into the casing and operable from outside of the casing by the user.

Preferably the knife includes a blade carriage slideable on guides within the two part casing.

The carriage may be moveable for example by a worm drive operable by a nut. Preferably at least the rim of the nut extends through the wall of the casing so as to be appropriately positioned to be operated by the user of the knife.

The nut may extend through the top edge of the handle or the casing of the knife or it may extend through the side so as to be adjacent to the thumb of the user.

The nut itself may be knurled so as to facilitate turning it by means of the thumb or a finger and the nut may be made of plastic.

The mechanism may consist of a simple worm, made for example of aluminium casting, attached to the blade carriage the worm being engaged in a thread in the nut and the nut held in a slot formed in the two part casing so as to protrude.

Preferably the retracting mechanism is in the forward part of the knife and occupies the forward half of the casing leaving the rear half of the casing, or a substantial part of it, clear to be used for storage of spare or different blades. In the accompanying drawings:-

Figure 1 is a side elevation of half of a Craft Knife embodying the invention with parts shown in section;

Figure 2 is a section on line AA of Figure 1 and shows both halves of the knife casing and the operating nut;

Figure 3 is the scrap view of a modified form of the invention with the operating nut protruding through the top of the knife casing and

Figure 4 is a section on line BB of Figure 3 through the knife casing of the modified form of knife.

The Craft Knife shown in Figure 1 comprises a cast aluminium casing two parts 10 and 11 of which are held together by a bolt 12. Within one half of the casing 10 is a guide track 13 for a blade supporting carriage 14. The carriage 14 is arranged to receive a blade 15 of typical trapezoidal form with a cutting edge 16 and slots 17, 18, 19 adapted to engage a lug 20 on the carriage 14. Brazed to carriage 14 is a worm 21 which is formed with an internal bore 22 engaged over a stub shaft 23 fixed to the casing 10. Mounted on the worm 21 is a threaded nut 24 made of plastic material, with a knurled outer surface 25. The nut 24 extends through slots 26 and 27 in the respective halves of the casing 11 and 10 so that it may be operated by the user of the knife.

By rotating the nut 24 the blade carriage 14 may be moved forward from the firm line position shown in Figure 1 to the dotted position 15a or to any intermediate position.

Thus when the knife is not in use the blade may be withdrawn and stored safely within the casing. When the knife is in use any degree of extension of the blade may be employed according to the type of work being done.

It will be noted that the carriage 14 and operating blade 15 together with the mechanism for moving the carriage occupy the forward half of the knife casing. The rearward half of the knife casing contains a compartment 26 for spare blades 27.

Figure 3 shows a scrap section of an alternative form of operating mechanism in which the carriage 14a is moveable by a worm 21a on which is a knurled plastic nut 24a. As can be seen in Figures 3 and 4 the nut 24a protrudes through a gap 28 in the upper edge of the casing 10a, 11a.

The remaining details are the same as described in Figures 1 and 2. It may be more convenient for some types of work to have a knife where the adjustment of the blade can be operated from the top rather than from the sides of the knife casing.

The carriage 14a and worm may be made of aluminium or plastic or any other suitable material. The casing itself is preferably made as an aluminium casting but could also be made in steel or plastic.

The knife may also include a "clicker strip or plate" i.e. a resilient strip or plate of metal such as berrylium/copper alloy against which the blade rubs so as to constrain the blade and prevent it from wobling about in the casing.

The strip may, for example locate in the notches in the blade.

CLAIMS

1. A craft knife comprising an easily removal blade extending through a slot in one end of the knife, the knife comprising a two part casing which acts as the handle of the knife, characterised by this that the blade is retractable into the casing by mechanism built into the casing and operable from outside of the casing by the user.

2. A craft knife according to claim 1 in which the

handle of the knife provides storage space for space blades.

3. A knife according to claim 1 or claim 2 which includes a blade carriage slidable on guides within the two part casing.

4. A knife according to claim 3 in which the carriage is movable by a worm drive operable by a nut.

5. A knife according to claim 4 and in which at least the rim of the nut extends through the wall of the casing so as to be appropriately positioned to be operated by the user of the knife.

6. A knife according to claim 5 and in which the nut either extends through the top edge of the casing of the knife, or through the side so as to be adjacent to the thumb of the user.

7. A knife according to any preceding claim and in which the nut is knurled so as to facilitate turning it by means of the thumb or a finger.

8. A knife according to any preceding claim and in which the nut is of plastics material.

9. A knife according to any preceding claim and in which the mechanism consists of a simple worm attached to the blade carriage, the worm being engaged in a thread in the nut and the nut held in a slot formed in the two part casing so as to protrude.

10. A knife according to any preceding claim and in which the retracting mechanism is in the forward part of the knife and occupies the forward half of the casing leaving the rear half of the casing, or a substantial part of it, clear to be used for storage of spare or different blades.

11. A craft knife substantially as hereinbefore particularly described and as illustrated in Figures 1 and 2 of the accompanying drawings.

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